



Specialty Fibre for Component

Photonic Single-mode Fibre Series for Component (PH-SMF)

YOFC photonic single-mode fibres are specially developed for optical components with strict requirement for bending resistance properties. The fibres are manufactured by PCVD process with Ge/F co-doped material system and special waveguide structure. The fibres have tight geometric and optical specifications. They are compatible with G.652 fibre and has excellent macro-bending performance which makes it very appropriate for the mini components. The fibres meet the standards of ITU-T G.657.A1/G.657.A2/G.657.B3 and suits full range applications from 1260nm to 1625nm.

The Ge/F co-doped material system, design provides excellent macro-bending attenuation and good fused-taper performance. The macro-bending performance of PH1011-C and PH1012-A has been significantly improved with special "trench" waveguide structure and meets the requirements of G.657.A2 and G.657.B3 standards. PH1012-A is specially developed for very small bending radius and compact components and modules in C band with excellent bending resistance.

Characteristics

- Tighter geometric and optic specifications
- Excellent splicing performance
- Excellent compatibility with the G.652 fibre
- Excellent macrobending resistance
- Excellent microbending resistance
- High reliability enhanced by 200kpsi

Applications

- Bending sensitive condition/mini component
- Pigtails/Patch cords
- Connectors
- Couplers
- Miniaturized integrated erbium-doped fibre amplifier (EDFA)
- DWDM Components

Standards

- YOFC PH-SMF meet or exceed the ITU-T G.657 and IEC60973-2-50

Specifications

Fibre Type		PH 9/125-13/250C	PH 9/125-14/250+*	PH 8/125-14/250	PH 8/125-14/250B	
Part No.		PH1010-C	PH1011-C	PH1012-A	PH1012-B	
Ref.Standards		G.657.A1	G.657.A2	G.657.B3	G.657.B3	
Optical Properties						
Attenuation	@1310 (dB/km)	≤ 0.35	≤ 0.35	≤ 0.35	≤ 0.35	
	@1383 (dB/km)	-	≤ 0.35	≤ 0.35	≤ 0.35	
	@1550 (dB/km)	≤ 0.20	≤ 0.21	≤ 0.22	≤ 0.21	
	@1625 (dB/km)	≤ 0.23	≤ 0.23	≤ 0.24	≤ 0.23	
Fibre Cut-off Wavelength (nm)		≤ 1300	≤ 1300	≤ 1460	≤ 1310	
Mode-field Diameter	@1310 nm (μm)	8.4 - 9.2	8.4 - 9.2	8.2 - 8.9	8.2 - 9.0	
	@1550 nm (μm)	9.3 - 10.3	9.3 - 10.3	9.1 - 10.1	9.1 - 10.1	
Geometrical Properties						
Clad Diameter (μm)		124.7 ± 0.5	124.7 ± 0.5	124.7 ± 0.5	124.7 ± 0.5	
Non-circularity of Cladding (%)		≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	
Coating Diameter (μm)		240.0 ± 5.0	240.0 ± 5.0	240.0 ± 5.0	240.0 ± 5.0	
Core/Cladding Concentricity (μm)		≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3	
Coating/Cladding Concentricity (μm)		≤ 8	≤ 8	≤ 8	≤ 8	
Curl (Radius)(m)		≥ 4	≥ 4	≥ 4	≥ 4	
Macrobend Properties						
Radius	Turns	Wavelength(nm)	Additional Attenuation(dB)	Additional Attenuation(dB)	Additional Attenuation(dB)	Additional Attenuation(dB)
10 mm	1	1550	≤ 0.5	≤ 0.1	-	≤ 0.03
10 mm	1	1625	≤ 1.5	≤ 0.2	-	≤ 0.10
7.5 mm	1	1550	-	≤ 0.2	≤ 0.03	≤ 0.08
7.5 mm	1	1625	-	≤ 0.5	≤ 0.15	≤ 0.25
5 mm	10	1550	-	-	≤ 0.5	≤ 1.5
5 mm	10	1625	-	-	≤ 1.5	≤ 4.5
Mechanical Properties						
Proof Test	Off-line	100/200	100/200	100/200	100/200	
Environmental Properties						
Test Item	Condition	1310nm, 1550nm and 1625nm Additional Attenuation (dB/km)				
Temperature Cycle (°C)	-60°C to +85	≤ 0.05				

*200μm outer diameter fibre is available

*The measurement of fibre cut-off wavelength is testing 2.0 ± 2.0m length fibre by the multi-mode reference method specified in IEC 60793-1-44